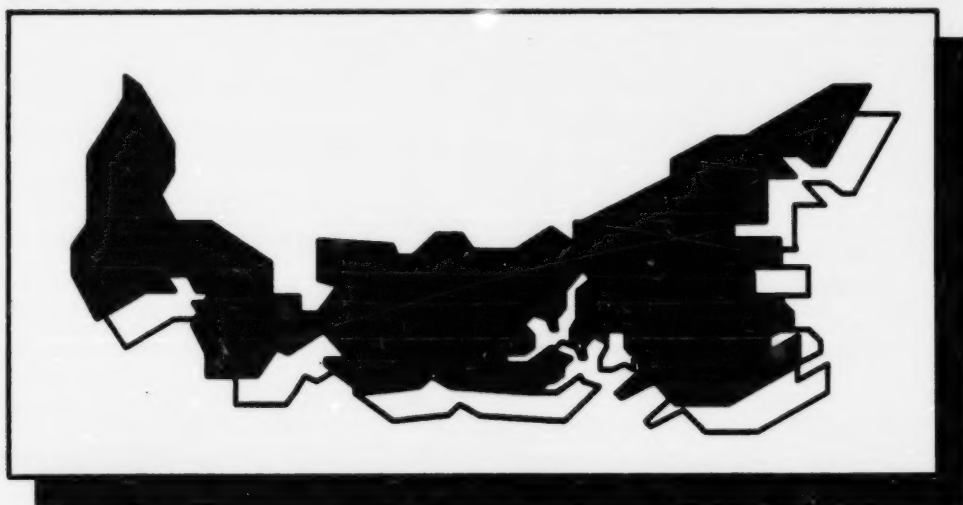




ENERGY SECURITY FOR PRINCE EDWARD ISLAND



Department of Energy and Forestry
Government of Prince Edward Island

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FOR

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INTRODUCTION

At the conference of Federal-Provincial-Territorial Ministers of Energy on January 30, 1987, Ministers agreed that a review of energy security would be undertaken, "...which would include assessment of the role of conservation, oil substitution, oil and gas transportation infrastructure, electricity, and the means to accelerate the development of new energy projects." Ministers stated that the federal and provincial governments would prepare papers examining the issue of energy security for the consideration of a working group, which would report to Ministers by July 1, 1987.

On February 19, 1987, staff of Energy, Mines and Resources Canada briefed P.E.I. Government officials on security of oil supply for Canada. Prince Edward Island is concerned about its high dependency on foreign crude, as well as the important issue of electricity availability and pricing. Indeed, the Province feels that the security and availability of all forms of energy, and the management of energy demand, should be an important priority of both the federal and provincial governments. The formulation of policies and programs should be a partnership of both levels of government.

The Province of Prince Edward Island has cause for concern about energy security. It does not have the natural energy resources which virtually every other province and territory enjoys. Its access to imported oil is tenuous at best, and supplies are at the mercy of commercial decisions and the policies of foreign pricing cartels. Even weather can be a factor. P.E.I. has no access to domestic oil or natural gas, and does not possess sufficient quantities of those commodities to warrant local production. Biomass fuels are being exploited, and have a valuable but limited role to play in P.E.I. energy security.

The vast bulk of its electricity supply comes across a cable from New Brunswick, which is subject to technical disruptions. This power originates from a utility which is itself heavily reliant on imported crude oil. Islanders have conserved as much as possible, with consumption of electricity per customer the lowest in Canada. Electricity prices however, are the highest in Canada, especially for residential consumers. The Province of Prince Edward Island has encouraged, with the cooperation of the Federal Government, the development of alternative energies such as biomass.

Prince Edward Island has major concerns about energy security, and joins the federal and other provincial governments in proposing innovative ideas to deal with this issue now. P.E.I. hopes however, to see solutions proposed and acted upon - concrete solutions which will help Atlantic Canada as well as the resource-rich Western Provinces.

SUMMARY OF CONCERNS

Meeting the energy security challenge for Prince Edward Island implies action in five areas:

1. The need to alleviate the threat of physical shortages, for both oil and electricity.
2. The need to lessen the threat of price shocks for both oil and electricity.
3. The desire to increase access to energy options.
4. The need to improve the management of demand for energy.
5. The need to ensure fair regulatory treatment at all levels of government.

1. PHYSICAL SHORTAGES

Prince Edward Island, by its very geographical location, is dependent upon a complex chain of third parties to obtain its oil and electricity, the only two energy sources available to the Island. Particularly in view of its small market, P.E.I. can be the victim of weather conditions, transportation difficulties, or market dislocations, caused by the actions of producers or distributors.

OIL

A physical shortage of crude oil supplies to Prince Edward Island could have a devastating impact on the economy of the Province. In 1985, 76.9% of the Province's energy needs were met by crude oil supplies which compares with approximately 41% for all of Canada. This dependence is more clearly demonstrated in the following table:

PERCENTAGE OF ENERGY SUPPLIED BY PETROLEUM PRODUCTS

	P.E.I.	CANADA
Industrial	86.0	19.0
Residential	55.0	19.0
Comm./Instit./Pub. Admin	75.0	15.6
Transportation	<u>100.0</u>	<u>93.5</u>
TOTAL	76.9	40.7

A problem of high crude oil dependency is compounded by the fact that Prince Edward Island is totally dependent on foreign crude imports and, should a supply crisis occur, domestic light crude supplies could not be readily re-allocated from Western Canada to the Atlantic region.

The Province is attempting to reduce its dependency on imported crude oil by encouraging conservation and efficient use techniques. The Province is also encouraging the development and use of its forest biomass as an alternative to heating fuel. P.E.I. is very limited in what it can do to protect itself against a crude oil supply problem because of its lack of indigenous energy resources. It therefore, must rely on Canada to reduce the impact of such a problem. There are a number of steps which the Federal Government can do and must do to protect all Canadians from crude oil supply crisis.

It is becoming increasingly apparent that Canada's future oil production will come from unconventional and frontier oil reserves. It is therefore important that the necessary infrastructure and incentives are put in place immediately to encourage the production of synthetic light crude from bitumen, and the development of such frontier areas as the East Coast offshore, the Beaufort Sea, the MacKenzie Delta and the Arctic Islands.

The development of the Venture gas field and the Hibernia and Cohasset oil fields would not only result in energy security for this region, but would also reduce the region's dependence on foreign crude. Development in this area would also have a positive impact on the economy of the region.

In the short term, the Federal Government is encouraged to evaluate the feasibility of constructing an oil pipeline to Atlantic Canada. Such a pipeline would substantially reduce the region's dependence on foreign crude oil. Another short term option, and one which is clearly second best to an oil pipeline, is the establishment of a strategic petroleum reserve in Atlantic Canada. Oil companies are currently under no obligation to retain reserves in the area. A government-enforced system should be researched and discussed with Atlantic Provinces.

Canadian energy export policies must protect the needs of all Canadians and the economic benefits of energy export must be carefully weighed against the effects on Canada's energy security.

Finally, the development of Canada's conventional oil and gas fields must continue and be encouraged. The Federal Government has taken a first step in its recently announced incentive program for oil and gas producers.

ELECTRICITY

For electricity, the Province is at the moment dependent physically on one cable link to New Brunswick, which supplies some 99% of the Province's electrical energy. Technical interruptions can occur, especially in winter months, and upgrading of the cable is urgently required. On-Island generation is available, but due to its high operating cost, is limited to a peaking service and emergency standby.

The federal and provincial governments recently received the report of the special advisor on electricity, Mr. Milan Nastich, who outlined a variety of options to increase the Province's generation capacity. The Province is seeking to acquire new capacity which will provide Islanders with guaranteed long-term energy at reasonable rates. The Province is currently assessing these options, which include the acquisition of electricity off-Island, and enhancing on-Island capacity. Included in the latter category are imaginative proposals to make use of biomass in the construction of wood-fired co-generation units.

Prince Edward Island's off-Island power is currently purchased entirely from the New Brunswick Electric Power Commission. New Brunswick has its own security of supply concerns, being heavily reliant on imported oil. New Brunswick Power is also an electricity exporter, and it is vitally important that domestic customers of New Brunswick Power or other Canadian utilities, be treated as favourably as Canada's export clients. Prince Edward Island is currently examining all possible sources of supply, including the possibility of cable links with other provinces, such as Nova Scotia or Quebec.

For Prince Edward Island the basic elements related to physical security for electricity are as follows:

- Upgrade the Prince Edward Island/New Brunswick cable connection as soon as possible;
- Acquire new firm generating capacity by October, 1988;
- Continue to develop on-Island biomass projects to the capacity of Island forestry resources;
- Ensure the maintenance of on-Island emergency and peaking capacity;
- Continue to intervene in regulatory proceedings to ensure access to electricity scheduled for export.

The Province will be undertaking all of the above in its comprehensive electricity plan. However, it needs the cooperation of its current major supplier, New Brunswick Power, and of the federal government, to be successful in its endeavours. In addition, Prince Edward Island supports the concept of a national electricity grid, and would like to join with other provinces in pursuing the idea.

2. PRICE SHOCKS

Price shocks in the oil market are largely unpredictable and uncontrollable. Canada and other nations have learned from the experience of the 1970's what a negative effect price shocks can create. Similarly, the price drop of the 1980's, although of temporary benefit to consumers, puts in jeopardy Canada's producing industry, and increases our dependency on imported oil. Prince Edward Island, most of all provinces in Canada, has been the victim of the oil price spiral.

OIL

Prince Edward Island is particularly vulnerable to global price shocks in the oil market because of its high dependence on foreign petroleum products. This dependency and the lack of indigenous energy supplies place Prince Edward Island in a position of sensitivity with respect to price shocks which is unequalled in any other Province of Canada.

During periods of high crude prices and government incentives, the major oil companies operating in Canada seem prepared to explore and develop the frontier resources of this country. However, the recent drop in world oil prices saw a significant decrease in exploration interest in frontier areas. It is therefore increasingly important that the Federal Government and the provinces set the proper environment to ensure that exploration activities are being conducted in all areas of Canada, and that energy security be established as a goal for oil companies. Such an environment will hopefully result in new discoveries and development in areas such as the Eastern offshore, and will mitigate this Province's dependence on foreign crude. Such an environment will also result in a healthier upstream industry and will enable Canada to better withstand any global shortages of crude oil.

On the domestic front, Prince Edward Islanders have seen large fluctuations over the years in the price they pay for their petroleum products. These fluctuations and the large differences in prices between provinces has forced this Province into price regulation. Legislation entitled "An Act To Amend the Petroleum Products Act" was introduced into the House on April 28, 1987. The Province will continue to monitor and regulate petroleum product pricing until such time as it feels Islanders are receiving fair prices.

ELECTRICITY

Table I shows electricity prices in various provinces over the last fourteen years. Prince Edward Island's prices, driven by oil, have been consistently higher than the regional average. Only in recent months, due to the decline in oil prices and a federal-provincial assistance program, have electricity rates dropped to approximate prices paid in neighbouring provinces, for industrial and commercial customers. Residential customers on the Island still pay a good 10% higher than residents of neighbouring provinces.

The province has several ideas on how to meet the threat of price shocks for electricity:

- Acquire a significant quantity of long-term firm capacity at guaranteed prices.
- Diversify electricity sources, in order not to be dependent on one fuel.
- Continue to insist on Canadian government export policy of first offer to Canadians at equivalent price, as embodied in current NEB regulations.
- Continue to pursue the construction of wood-fired cogeneration plants.

3. INCREASED ACCESS TO ENERGY OPTIONS

Prince Edward Island is now dependent on two energy sources: imported oil and electricity. The communiqué from the January 30, 1987 conference of Federal-Provincial-Territorial Ministers of Energy states:

"Ministers also agreed to ensure that all Canadians have fair and equitable access to Canadian energy supplies. In this regard, efforts will be made to reduce institutional and physical barriers to the interprovincial flow of energy."

With respect to the energy sources already in use in the Province, it is essential that the federal and provincial governments, in cooperation, study the costs and benefits of enhanced physical links to Canadian oil resources, as mentioned in the section on physical security. Just as the federal government paid to expand natural gas markets in Quebec, it should also consider the development of natural gas transportation and distribution systems for the Maritimes, either from Western or Eastern supplies.

The Province is actively pursuing the development of biomass supply and technology, and is a leader in Canada in solar and wind energy. Signed in 1984, the federal-provincial Alternate Energy Development Agreement (AEDA) has been instrumental in developing a biomass fuel industry (particularly woodchips) in Prince Edward Island. With parallel delivery of its components, AEDA assigns responsibilities to Energy, Mines and Resources Canada, to administer capital grants for converting oil burning facilities; and to the Prince Edward Island Department of Energy and Forestry, to facilitate the supply and delivery of biomass fuels. Thus, both the demand and supply sides are assisted.

In 1985, biomass fuels constituted 12.4% of P.E.I.'s energy supply. Although many Island residences use wood for space heating, AEDA conversions have largely utilized waste products from wood: woodchips or mill residue. The woodchip burning facilities for space heating now operative within P.E.I. consume approximately 25,000 tonnes annually. A proposed wood-fired plant for co-generating electrical power and district heating would burn 140,000 tonnes annually. As the annual forest yield of wood products exceeds 500,000 tonnes, wood products are still an underutilized source of energy on Prince Edward Island.

Development of a local wood-supply system has been contingent on a market demand for wood fuels. Because of the substantial capital investment required for commission of oil burning facilities, and its lengthy pay back period, most small scale consumers cannot finance the conversion to biomass fuels. In order to create a demand for woodchip fuels, federal subsidies toward the capital costs of converting facilities has been crucial. Given the current depressed fuel prices, this support by the Government of Canada will determine the long-term success of alternate energy on Prince Edward Island.

Realistically speaking, the woodchip industry on Prince Edward Island will never satisfy all of Prince Edward Island's energy needs, but it has the potential to become a significant complement and even competitor to imported fuels. Any policy to ensure long-term energy security must acknowledge the value of biomass in reducing Prince Edward Island's economic dependence on imported fuels. Equally important, the contribution of a locally-based industry to the provincial economy must not be underrated.

AEDA has as its objective, "to increase the use of biomass fuels on Prince Edward Island." As a subagreement of the Economic Regional Development Agreement (ERDA), its mandate includes the stimulation of regional economic development as well as the stated energy policy. Thus, developing a biomass fuel industry on Prince Edward Island is seen as an opportunity to maximize the local socio-economic benefits of the energy industry.

The Province of Prince Edward Island is committed to the promotion of biomass as a fuel and to the development of a woodchip supply industry. The Government of Canada is encouraged to continue its assistance in this initiative.

4. MANAGEMENT OF DEMAND

One cannot address the supply side without ensuring that actions on the demand management side have been maximized. The importance of increasing conservation activities and of focussing more on the efficiency of energy use were two themes stressed at the January 30, 1987, Ministers conference. Prince Edward Island has been a leader in energy conservation, and points to the fact that its consumption of electricity per customer is significantly lower than any other province in Canada. The Province has successfully delivered conservation programs, and a Memorandum of Understanding on energy conservation is under negotiation. However, we can and must do more, and the federal government must show leadership and guidance to the provinces in this respect. A partial menu of initiatives is offered for discussion and action by the federal and provincial governments:

- Enforcement of conservation standards.
- Provision of conservation incentives and information.
- Establishment of national efficiency standards, incentives and information.
- Support for research and development of efficiency and alternate energy technology.
- Support for research and implementation of innovative load management techniques by electrical utilities.

In this field governments are only limited by imagination. There are many low or no cost initiatives which can be undertaken with the cooperation of the private sector. Since the termination of the National Conservation and Alternative Energy strategy, a gap has been created which must be filled. P.E.I. is ready to sit down with the federal and provincial governments and share ideas in this important area.

5. FAIR REGULATORY TREATMENT

Energy regulation at all levels of government is the embodiment of a government's policies. As such, it should be protective of consumers and fair to producers and transporters.

The communiqué from the January 30, Energy Ministers conference speaks of breaking down barriers to trade with our U.S. neighbours and reducing barriers to the interprovincial flow of energy. Although this is a laudable thrust in principle, a small energy-poor province like Prince Edward Island relies on enlightened regulation to ensure it is treated fairly.

In the case of electricity, the Province has been the beneficiary of regulatory decisions on the part of the National Energy Board. In supporting Prince Edward Island's contention that electricity destined for export should be offered first at similar prices to Canadians, the NEB has kept prices down for Islanders, while still providing a profit to the exporting utility. In the fall of 1986, the NEB held an inquiry on the federal regulation of electricity exports, the results of which are crucial to all Canadians. Prince Edward Island believes that the role of the NEB in this respect should be supported and indeed reinforced, to ensure the fair distribution of Canada's resources to all Canadians.

The above principle applies as well to oil exports. Although it is recognized that the role of the NEB is confined to ex post facto monitoring, Prince Edward Island feels that the NEB role should be strengthened, in order to ensure that supplies exported now are not Canada's oil security for the future.

Interprovincial regulatory barriers are a complex question. To ensure that utilities are regulated in a transparent public forum which is easily understood by ratepayers, is a responsibility of each government. One would hope this would facilitate the interchange of ideas and technology which would permit the concept of an interprovincial electricity grid to go forward.

In concrete terms, Prince Edward Island recommends that:

- The role of the National Energy Board in regulating energy exports be reinforced;
- Provinces examine the extent of public regulation of their own utilities;
- Provinces actively consider the creation of an inter-provincial electricity grid.

CONCLUSION

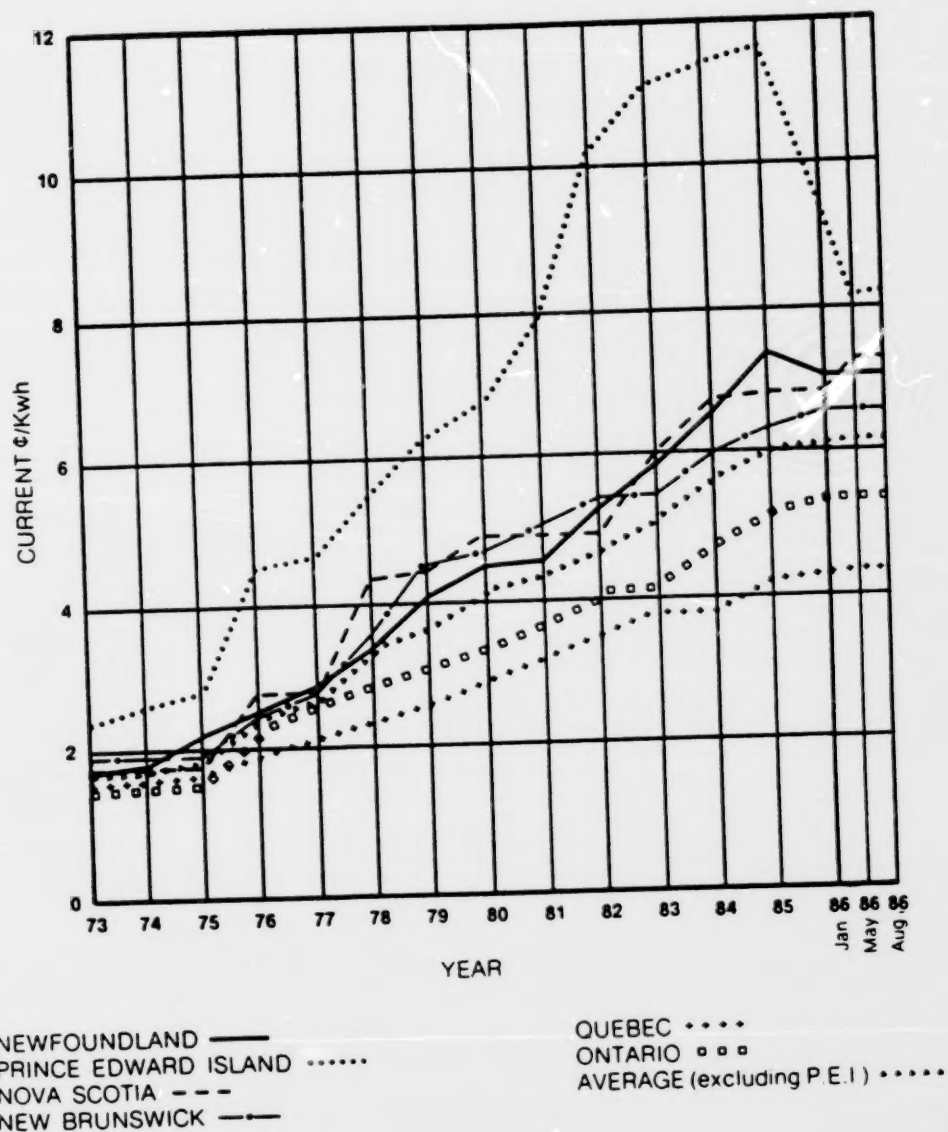
In order to achieve energy security for Canada, there is much work to be done. Federal - provincial and interprovincial cooperation is essential, as is the whole-hearted participation of the energy industry. Prince Edward Island expects leadership from the federal government in this respect, and to see concrete solutions to complex problems.

Prince Edward Island wants action in the short term to improve the physical and price security of the fuels it currently uses. It wants to expand its energy menu, and it needs support and cooperation to make the best use of energy resources in the future. It wants consistent and fair energy regulation, which recognizes Prince Edward Island's unique situation.

The Government of Prince Edward Island is working in many of these areas now, and will continue to do so. However, the benefits of cooperative action in this field cannot be underestimated. Prince Edward Island awaits with interest the report to federal-provincial Ministers due July 1, and will follow closely the public conference process, "Energy Options - A Canadian Dialogue". It is hoped that the expectations being created by raising the profile of this important issue will be met in the short and long term. Governments, industry and the Canadian public, cannot afford to delay in developing comprehensive strategies to deal with this vital issue.

TABLE I

**Electric Power Costs in Various Provinces
(1973 - 1986)**



Source: Energy, Mines and Resources Energy Statistics Handbook

Note: Prices Based on Residential Consumption of 750 Kwh per month
Prices Are As At January 1